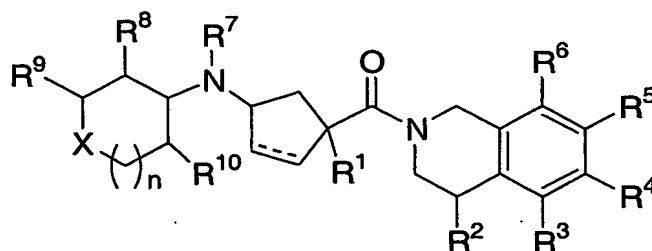


## WHAT IS CLAIMED IS:

1. A method for treating neuropathic pain comprising administering to a patient in need of such treatment a therapeutically effective amount of a CCR-2 antagonist.

2. A method for treating neuropathic pain comprising administering to a patient in need of such treatment a therapeutically effective amount of a compound of the formula:



wherein:

X is selected from the group consisting of:

-O-, -NR<sup>20</sup>-, -S-, -SO-, -SO<sub>2</sub>-, and -CR<sup>21</sup>R<sup>22</sup>-, -NSO<sub>2</sub>R<sup>20</sup>-,  
-NCOR<sup>20</sup>-, -NCO<sub>2</sub>R<sup>20</sup>-, -CR<sup>21</sup>CO<sub>2</sub>R<sup>20</sup>-, -CR<sup>21</sup>OCOR<sup>20</sup>-, -CO-,  
where R<sup>20</sup> is selected from: hydrogen, C<sub>1-6</sub> alkyl, benzyl, phenyl,

C<sub>3-6</sub> cycloalkyl where the alkyl, phenyl, benzyl, and cycloalkyl groups can be unsubstituted or substituted with 1-3 substituents where the substituents are independently selected from: halo, hydroxy, C<sub>1-3</sub>alkyl, C<sub>1-3</sub>alkoxy, -CO<sub>2</sub>H, -CO<sub>2</sub>-C<sub>1-6</sub> alkyl, and trifluoromethyl,

where R<sup>21</sup> and R<sup>22</sup> are independently selected from: hydrogen, hydroxy, C<sub>1-6</sub> alkyl, -O-C<sub>1-6</sub>alkyl, benzyl, phenyl, C<sub>3-6</sub> cycloalkyl where the alkyl, phenyl, benzyl, and cycloalkyl groups can be unsubstituted or substituted with 1-3 substituents where the substituents are independently selected from: halo, hydroxy, C<sub>1-3</sub>alkyl, C<sub>1-3</sub>alkoxy, -CO<sub>2</sub>H, -CO<sub>2</sub>-C<sub>1-6</sub> alkyl, and trifluoromethyl;

R<sup>1</sup> is selected from:

-C<sub>1-6</sub>alkyl, -C<sub>0-6</sub>alkyl-O-C<sub>1-6</sub>alkyl-, -C<sub>0-6</sub>alkyl-S-C<sub>1-6</sub>alkyl-,  
-(C<sub>0-6</sub>alkyl)-(C<sub>3-7</sub>cycloalkyl)-(C<sub>0-6</sub>alkyl), hydroxy, -CO<sub>2</sub>R<sup>20</sup>, heterocycle,  
-CN, -NR<sup>20</sup>R<sup>26</sup>-, -NSO<sub>2</sub>R<sup>20</sup>-, -NCOR<sup>20</sup>-, -NCO<sub>2</sub>R<sup>20</sup>-, -NCOR<sup>20</sup>-,  
-CR<sup>21</sup>CO<sub>2</sub>R<sup>20</sup>-, -CR<sup>21</sup>OCOR<sup>20</sup>-, phenyl and pyridyl,

where  $R^{26}$  is selected from: hydrogen,  $C_{1-6}$  alkyl, benzyl, phenyl,  $C_{3-6}$  cycloalkyl

where the alkyl, phenyl, benzyl, and cycloalkyl groups can be unsubstituted or substituted with 1-3 substituents where the substituents are independently selected from: halo, hydroxy,  $C_{1-3}$ alkyl,  $C_{1-3}$ alkoxy,  $-CO_2H$ ,  $-CO_2-C_{1-6}$  alkyl, and trifluoromethyl

where the alkyl and the cycloalkyl are unsubstituted or substituted with 1-7 substituents where the substituents are independently selected from:

- (a) halo,
- (b) hydroxy,
- (c)  $-O-C_{1-3}$ alkyl,
- (d) trifluoromethyl,
- (f)  $C_{1-3}$ alkyl,
- (g)  $-O-C_{1-3}$ alkyl,
- (h)  $-CO_2R^{20}$ ,
- (i)  $-SO_2R^{20}$ ,
- (j)  $-NHCOCH_3$ ,
- (k)  $-NHSO_2CH_3$ ,
- (l) -heterocycle,
- (m)  $=O$ ,
- (n)  $-CN$ ,

and where the phenyl and pyridyl are unsubstituted or substituted with 1-3 substituents where the substituents are independently selected from: halo, hydroxy,  $C_{1-3}$ alkyl,  $C_{1-3}$ alkoxy and trifluoromethyl;

$R^2$  is selected from:

- (a) hydrogen,
- (b) hydroxy,
- (c) halo,
- (d)  $C_{1-3}$ alkyl, where the alkyl is unsubstituted or substituted with 1-6 substituents independently selected from: fluoro, and hydroxy,
- (e)  $-NR^{20}R^{26}$ ,
- (f)  $-CO_2R^{20}$ ,
- (g)  $-CONR^{20}R^{26}$ ,
- (h)  $-NR^{20}COR^{21}$ ,
- (i)  $-OCONR^{20}R^{26}$ ,

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- (j) -NR<sup>20</sup>CONR<sup>20</sup>R<sup>26</sup>,
  - (k) -heterocycle,
  - (l) -CN,
  - (m) -NR<sup>20</sup>-SO<sub>2</sub>-NR<sup>20</sup>R<sup>26</sup>,
  - (n) -NR<sup>20</sup>-SO<sub>2</sub>-R<sup>26</sup>,
  - (o) -SO<sub>2</sub>-NR<sup>20</sup>R<sup>26</sup>, and
  - (p) =O, where R<sup>2</sup> is connected to the ring via a double bond;

R<sup>3</sup> is selected from:

- 10
- (a) hydrogen,
  - (b) hydroxy,
  - (c) halo,
  - (d) C<sub>1-6</sub>alkyl,
  - (e) -O-C<sub>1-6</sub>alkyl,
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- (f) -NR<sup>20</sup>R<sup>21</sup>,
  - (g) -NR<sup>20</sup>CO<sub>2</sub>R<sup>21</sup>,
  - (h) -NR<sup>20</sup>CONR<sup>20</sup>R<sup>21</sup>,
  - (i) -NR<sup>20</sup>-SO<sub>2</sub>-NR<sup>20</sup>R<sup>21</sup>,
  - (j) -NR<sup>20</sup>-SO<sub>2</sub>-R<sup>21</sup>,
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- (k) heterocycle,
  - (l) -CN,
  - (m) -CONR<sup>20</sup>R<sup>21</sup>,
  - (n) -CO<sub>2</sub>R<sup>20</sup>,
  - (o) -NO<sub>2</sub>,
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- (p) -S-R<sup>20</sup>,
  - (q) -SO-R<sup>20</sup>,
  - (r) -SO<sub>2</sub>-R<sup>20</sup>, and
  - (s) -SO<sub>2</sub>-NR<sup>20</sup>R<sup>21</sup>;

30 R<sup>4</sup> is selected from:

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- (a) hydrogen,
  - (b) C<sub>1-6</sub>alkyl,
  - (c) trifluoromethyl,
  - (d) trifluoromethoxy,
  - (e) chloro,

- (f) fluoro,
- (g) bromo, and
- (h) phenyl;

5  $R^5$  is selected from:

- (a)  $C_{1-6}$ alkyl, where alkyl may be unsubstituted or substituted with 1-6 fluoro and optionally substituted with hydroxyl,
- (b)  $-O-C_{1-6}$ alkyl, where alkyl may be unsubstituted or substituted with 1-6 fluoro,
- 10 (c)  $-CO-C_{1-6}$ alkyl, where alkyl may be unsubstituted or substituted with 1-6 fluoro,
- (d)  $-S-C_{1-6}$ alkyl, where alkyl may be unsubstituted or substituted with 1-6 fluoro,
- (e)  $-pyridyl$ , which may be unsubstituted or substituted with one or more  
15 substituents selected from the group consisting of: halo, trifluoromethyl,  $C_{1-4}$ alkyl, and  $CO_2R^{20}$ ,
- (f) fluoro,
- (g) chloro,
- (h) bromo,
- 20 (i)  $-C_{4-6}$ cycloalkyl,
- (j)  $-O-C_{4-6}$ cycloalkyl,
- (k) phenyl, which may be unsubstituted or substituted with one or more substituents selected from the group consisting of : halo, trifluoromethyl,  $C_{1-4}$ alkyl, and  $CO_2R^{20}$ ,
- 25 (l)  $-O-phenyl$ , which may be unsubstituted or substituted with one or more substituents selected from the group consisting of : halo, trifluoromethyl,  $C_{1-4}$ alkyl, and  $CO_2R^{20}$ ,
- (m)  $-C_{3-6}$ cycloalkyl, where alkyl may be unsubstituted or substituted with 1-6 fluoro,
- 30 (n)  $-O-C_{3-6}$ cycloalkyl, where alkyl may be unsubstituted or substituted with 1-6 fluoro,
- (o)  $-heterocycle$ ,
- (p)  $-CN$ , and
- (q)  $-CO_2R^{20}$ ;

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R<sup>6</sup> is selected from:

- 5 (a) hydrogen,  
(b) C<sub>1-6</sub>alkyl, and  
(c) trifluoromethyl  
(d) fluoro  
(e) chloro, and  
(f) bromo;

R<sup>7</sup> is selected from:

- 10 (a) hydrogen, and  
(b) C<sub>1-6</sub>alkyl, which is unsubstituted or substituted with 1-3 substituents where the substituents are independently selected from: halo, hydroxy, -CO<sub>2</sub>H, -CO<sub>2</sub>C<sub>1-6</sub>alkyl, and -O-C<sub>1-3</sub>alkyl;

15 R<sup>8</sup> is selected from:

- (a) hydrogen,  
(b) C<sub>1-6</sub>alkyl, where alkyl may be unsubstituted or substituted with 1-6 substituents where the substituents are chosen from the group: fluoro, C<sub>1-3</sub>alkoxy, hydroxy, -CO<sub>2</sub>R<sup>20</sup>,  
20 (c) fluoro,  
(d) -O-C<sub>1-3</sub>alkyl, where alkyl may be unsubstituted or substituted with 1-3 fluoro, and  
(e) C<sub>3-6</sub> cycloalkyl,  
(f) -O-C<sub>3-6</sub>cycloalkyl,  
25 (g) hydroxy,  
(h) -CO<sub>2</sub>R<sup>20</sup>,  
(i) -OCOR<sup>20</sup>,

or R<sup>7</sup> and R<sup>8</sup> may be joined together via a C<sub>2-4</sub>alkyl or a C<sub>0-2</sub>alkyl-O-C<sub>1-3</sub>alkyl chain to form a 5-7 membered ring;

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R<sup>9</sup> is selected from:

- (a) hydrogen,  
(b) C<sub>1-6</sub>alkyl, where alkyl may be unsubstituted or substituted with 1-6 substituents where the substituents are chosen from the group: fluoro, C<sub>1-3</sub>alkoxy, hydroxy, -CO<sub>2</sub>R<sup>20</sup>,  
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- (c)  $\text{CO}_2\text{R}^{20}$ ,  
 (d) hydroxy, and  
 (e)  $-\text{O}-\text{C}_{1-6}\text{alkyl}$ , where alkyl may be unsubstituted or substituted with 1-6 substituents where the substituents are chosen from the group: fluoro,  $\text{C}_{1-3}\text{alkoxy}$ , hydroxy,  $-\text{CO}_2\text{R}^{20}$ ,  
 or  $\text{R}^8$  and  $\text{R}^9$  may be joined together by a  $\text{C}_{1-4}\text{alkyl}$  chain or a  $\text{C}_{0-3}\text{alkyl}-\text{O}-\text{C}_{0-3}\text{alkyl}$  chain to form a 3-6 membered ring;

$\text{R}^{10}$  is selected from:

- (a) hydrogen, and  
 (b)  $\text{C}_{1-6}\text{alkyl}$ , where alkyl may be unsubstituted or substituted with 1-6 fluoro,  
 (c) fluoro,  
 (d)  $-\text{O}-\text{C}_{3-6}\text{cycloalkyl}$ , and  
 (e)  $-\text{O}-\text{C}_{1-3}\text{alkyl}$ , where alkyl may be unsubstituted or substituted with 1-6 fluoro,  
 or  $\text{R}^8$  and  $\text{R}^{10}$  may be joined together by a  $\text{C}_{2-3}\text{alkyl}$  chain to form a 5-6 membered ring, where the alkyl are unsubstituted or substituted with 1-3 substituents where the substituents are independently selected from: halo, hydroxy,  $-\text{CO}_2\text{R}^{20}$ ,  $\text{C}_{1-3}\text{alkyl}$ , and  $\text{C}_{1-3}\text{alkoxy}$ ,  
 or  $\text{R}^8$  and  $\text{R}^{10}$  may be joined together by a  $\text{C}_{1-2}\text{alkyl}-\text{O}-\text{C}_{1-2}\text{alkyl}$  chain to form a 6-8 membered ring, where the alkyl are unsubstituted or substituted with 1-3 substituents where the substituents are independently selected from: halo, hydroxy,  $-\text{CO}_2\text{R}^{20}$ ,  $\text{C}_{1-3}\text{alkyl}$ , and  $\text{C}_{1-3}\text{alkoxy}$ ,  
 or  $\text{R}^8$  and  $\text{R}^{10}$  may be joined together by a  $-\text{O}-\text{C}_{1-2}\text{alkyl}-\text{O}-$  chain to form a 6-7 membered ring, where the alkyl are unsubstituted or substituted with 1-3 substituents where the substituents are independently selected from: halo, hydroxy,  $-\text{CO}_2\text{R}^{20}$ ,  $\text{C}_{1-3}\text{alkyl}$ , and  $\text{C}_{1-3}\text{alkoxy}$ ;

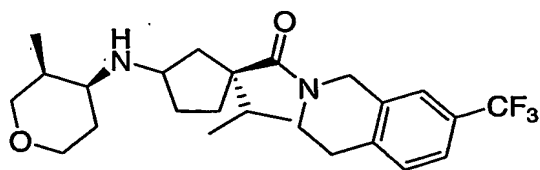
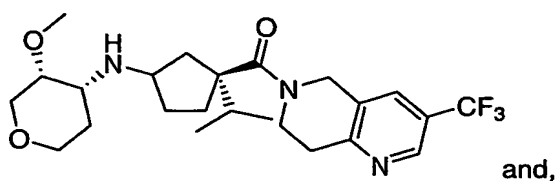
$n$  is selected from 0, 1 and 2;

the dashed line represents a single or a double bond;

and pharmaceutically acceptable salts thereof and individual diastereomers thereof.

3. A method of claim 2, wherein X is oxygen.

4. A method for treating neuropathic pain comprising administering to a patient in need of such treatment a therapeutically effective amount of a compound of the formula:



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